OPERATING INSTRUCTIONS

Recordio

MODELS

6B10 — 6B20 — 6B30 — 6B32

BY

WILCOX-GAY CORPORATION

CHARLOTTE, MICHIGAN

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OPERATING INSTRUCTIONS

RECORDIO is the latest in home entertainment devices, embracing a recording unit in combination with a high quality radio receiver and phonograph. It not only provides superlative radio reception and record reproduction but also permits you to make recordings of your favorite programs which may be played back at any time such entertainment is desired. After a file of dance selections, symphonic broadcasts, the President's talks, and other types of programs has been built up, it serves as a never ending source of entertainment, available at all times. Recordings of home instrumental and elocutional activities may be made which are limited only by the initiative and industry of the user. Add to this "candid" recordings of happenings in the home, baby's first words, etc., and RECORDIO becomes an Aladdin's lamp in home entertainment.

Making good recordings is by no means a difficult task. However, the better you understand your RECORDIO the better your recordings will be. May we urge that you read this instruction book carefully so that you may obtain the greatest pleasure and satisfaction from your RECORDIO.

INSTALLATION

Before connecting your RECORDIO, make certain that the line supply is 60 cycles, 105-125 volts AC.

The cabinet must be placed on a firm and level support. This is important to insure proper "tracking" of the arm when playing records. The back panel of the cabinet of portable models 6B10 and 6B20 should be removed to provide proper ventilation when the unit is being used.

This RECORDIO is equipped with a built-in loop antenna which is quite adequate in most locations. Where reception from relatively distant stations is desired the use of an antenna is recommended. The antenna may be up to 75 feet in length and should be connected to the terminal marked "ANT" on the loop. A ground connection should be made at the terminal marked "GND".

OPERATION

GENERAL.

The four pushbuttons below the dial select the different functions of the equipment, which are, from left to right: 1, phonograph playback; 2, public address; 3, microphone recording; 4, radio recording. When no buttons are depressed, normal radio reception is provided. Pushing any button automatically releases the others. To release all buttons, push one of the buttons, which is not depressed, part way down.

The left hand control knob is the volume control and power switch. The first fraction of a turn operates the switch, after which further clockwise rotation increases volume.

The right hand control knob tunes the receiver. Always tune directly on the station being received as indicated by maximum closing of the tuning indicator "eye". "Off-center" tuning causes distortion.

The center control knob is the tone control. Turned in a clockwise direction, the bass notes are emphasized; turned in the counter-clockwise direction, the treble notes are emphasized. This control should be set in the position giving the most pleasing tonal balance. During recording the control is made inoperative to insure recording the full musical range.

The turntable motor switch is at the right front of the turntable. Turning this control to the right causes the turntable to rotate.

MAKING RECORDINGS.

When a recording is to be made:

1. Place blank RECORDIO DISC on turntable so that the retractable pin protrudes through the small hole near the center hole of the record.
2. Raise the recording arm and insert cutting needle in the cutting head, making sure that the point of the retaining screw bears against the flattened shank of the needle Tighten screw firmly with fingers—do not use pliers.
3. Position the recording arm so that the cutting needle contacts the record blank about ¼" from the edge of the record. It is necessary to raise the recording arm about two inches to move the arm horizontally.
4. Start the turntable by turning the motor switch knob to the right. The record is now being cut, and the fine thread or shaving cut from the record will be directed toward the center post by means of the rubber finger attached to the recording arm. Allow the shaving to collect around the center post until the recording is completed.
5. When recording is finished raise the recording arm about two inches and return it to the arm rest. Turn the motor switch off.

THE CUTTING NEEDLE.

The cutting needle must be sharp in order to cut a smooth and uniform groove. The needle dulls or wears out gradually and its exact life cannot be predicted. A worn needle will result in excessive record surface noise and shallow grooves. A new RECORDIOPOINT cutting needle or one known to be in good condition should be substituted for a needle which is questionable.

NEVER ALLOW THE NEEDLE TIP TO TOUCH THE TURNTABLE OR ANY OTHER METAL.

RECORDING VOLUME.

While recording, the electron ray tube (eye) provides indication of the recording volume. As the volume control is advanced, the

dark segment of the "eye" will become smaller. The correct adjustment of the volume control causes the "eye" to close completely, without overlap, during loud volume passages. Higher recording levels may cause distortion. Lower levels may result in recordings which are too weak.

If it is found necessary to readjust the volume control during a recording, it should be done slowly. An abrupt change in volume will be definitely noticeable when playing the record. If the volume control is advanced during soft passages and retarded during loud passages the musical expression will be impaired.

If the recording volume is too high, overcutting is likely to occur and the sound will be faintly reproduced by the grooves each side of the point of overcutting. This phenomenon, known as "ghost" or "echo", is more noticeable in the case of speech recordings but may also impair the quality of musical recordings.

A record made at low recording volume must be played back with the volume control advanced more than normal to obtain good loud speaker volume. This will result in excessive groove noise being heard.

USING THE MICROPHONE.

Best results in making speech recordings are usually obtained by having the microphone at a distance of 6 to 10 inches. The correct distance will be found to vary, depending on the character of the voice. In the first attempts at recording voice it will be helpful to make several trial recordings at different microphone distances. Avoid excessive handling of the microphone as this will cause superfluous noises to be recorded. Usually the furnishings of the ordinary room afford suitable acoustics for microphone recording. A bare room, devoid of sound absorbent material will introduce excessive reverberation. Reverberation effects are large when the microphone distance is large. Working close to the microphone will reduce the recorded reverberation.

A. C. HUM WHEN RECORDING MICROPHONE.

It is recommended that a ground connection be used whenever possible when making recordings with the microphone. A terminal post is provided on the loop antenna for this purpose.

In many installations less hum pickup will be experienced if the line plug is connected to the power receptacle with the proper polarity. Ordinarily this is of importance only when recording from the microphone. If hum is being introduced try reversing the line plug.

PUBLIC ADDRESS.

When using the RECORDIO as a public address system, the microphone should be placed as far away from the set as possible to prevent acoustical feed-back between the microphone and loud-speaker. Working close to the microphone is usually the best practise.

MICROPHONE—CUTTING HEAD—PHONOGRAPH PICKUP.

1. The three crystal devices, namely the Microphone, Cutting Head and Phonograph Pickup, used with the RECORDIO, function with greatest efficiency when operated at normal room temperature.
2. The unit should never be subjected to extremely high temperatures, by placing the instrument on or near a radiator, register or other heating device.

CAUTION: The Crystals will be permanently injured if subjected to temperature in excess of 120° F.

3. Low temperatures have no detrimental effect upon the crystal units, although the low audio frequencies will be noticeably predominant, and a slight loss in volume may be noticed if operation of the instrument is attempted while cold. Also the motor mechanism may not function correctly if its lubricant has become congealed. The equipment should be allowed to reach room temperature before operation is attempted.

MAINTENANCE

When your RECORDIO left the factory, all adjustments for the recording mechanism were properly set by the manufacturer. In case some of the adjustments have been tampered with or damaged, the proper procedures for setting the adjustment correctly are given in this section of the instruction book. If further adjustment or checking is necessary, your RECORDIO dealer should be called.

DEPTH OF CUT.

The hardness of the coating on recording discs varies with different manufacturers. This RECORDIO has been adjusted to cut RECORDIO DISCS properly. In case other discs are used, it might be necessary to readjust the depth of cut.

When the machine is cutting correctly, the groove width is slightly wider than the width of the "land" or uncut record material between grooves.

The ratio of groove to land widths should not be greater than 60% groove, 40% land, nor less than 50% groove, 50% land. The use of an ordinary reading glass will assist in making this adjustment.

1. In adjusting the groove width, it is well to make a trial cut of a dozen or more silent grooves (volume control at minimum), using a new cutting needle. Making this trial cut into the record surface without modulation results in a straight groove of constant width, and also constant "land" width between grooves, whereas, modulation of the grooves causes them to assume a "wavy" shape, making it somewhat difficult to determine the correct groove width.

A NEW RECORDIOPOINT CUTTING NEEDLE, OR ONE KNOWN TO BE IN PERFECT CONDITION, SHOULD BE USED IN MAKING DEPTH OF GROOVE ADJUSTMENTS, AS TURNING THE ADJUSTING SCREW WILL HAVE LITTLE OR NO EFFECT UPON THE GROOVE DEPTH, IF THE NEEDLE IS DULL.

2. Before making any change in the adjustment provided for regulating the depth of cut, the height of the recording arm off the turntable surface (arm lowered to recording position) should be observed. The distance between the lower edge of the nose of the arm and the turntable surface should be 5/16 inch.

REMOVE CUTTING NEEDLE BEFORE MAKING THIS MEASUREMENT.

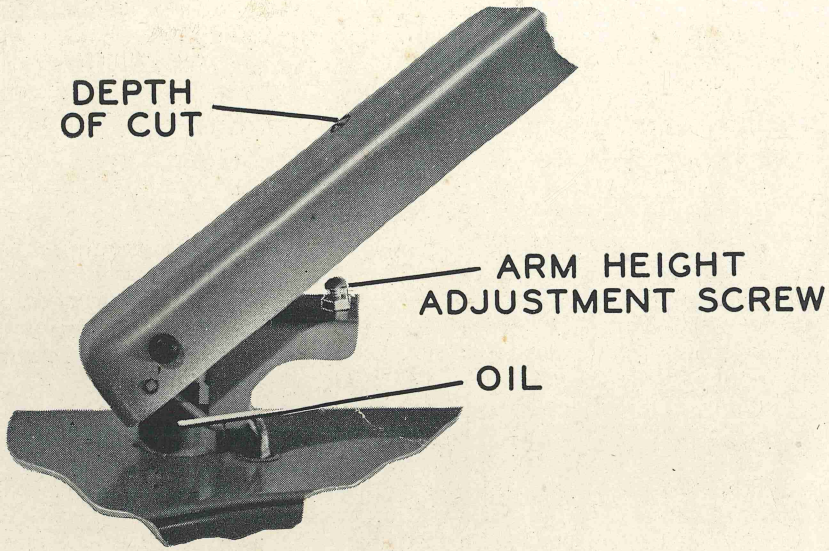

Figure 1
Cutting Arm Adjustments.

As the arm height has a definite bearing upon the uniformity of the groove cut into the record, this is very important, and the 5/16 inch measurement should be made with an accurately calibrated steel scale. Due to the possibility of the recording arm having been handled somewhat roughly in raising and lowering the arm, the arm height may be found to be incorrect, and an adjustment of the ARM HEIGHT ADJUSTMENT SCREW should be made so that the lower edge of the front end of the arm is EXACTLY 5/16 inch. To make this adjustment, raise the arm and loosen the lock nut which holds the adjusting screw in position (See Fig. 1). Turning the screw to the left raises the arm and to the right lowers the arm.

3. The depth of cut adjusting screw is located to the rear on the top of the recording arm (See Fig. 1). Turning the screw to the right (clockwise) *increases* the depth of cut, and turning the screw to the left (counter-clockwise) *decreases* the depth of cut. One turn of the adjusting screw makes a noticeable difference in the depth of the groove, therefore, the adjustments should be made in quarter or half turns, rather than in complete turns either way.

SHAVING COLLECTOR ADJUSTMENT.

As the record is being made, a small shaving will be cut which is guided toward the center of the turntable by the rubber finger attached to the recording arm. The correct setting of this finger is such that the tip slightly touches the record surface. If re-adjustment is necessary, loosen retaining screw, re-set finger and tighten screw.

CUTTING HEAD LEADS.

1. Observe that the leads connecting to the cutting head are properly placed within the arm so as not to interfere with the cutting head balance spring. Also, the wires should not be permitted to droop (arm horizontal) so that they will rub on the turntable.
2. The connecting wires from the cutting head should not be allowed to double up between the arm and arm platform, but should feed freely through the hole in the platform as the arm is lowered. Otherwise, the doubled up wires may prevent the arm from coming to rest on the head of the height adjustment screw.

PLAYBACK NEEDLE WEIGHT AND ADJUSTMENT.

The weight of the playback needle on the record should be approximately 1.3 ounces. The screw located on the underside at the rear of the playback arm provides a means to regulate the needle weight. Turning this screw to the right decreases the weight and to the left increases the weight. A postal scale, hooked to the front edge of the playback arm can be used to check the needle weight. The arm should be raised just off the record surface when checking the needle weight. This adjustment has been made at the factory. Readjustment will be necessary only in case of damage.

OILING.

When the RECORDIO leaves the factory, the equipment is properly lubricated and requires no immediate attention. Frequent oiling of the mechanism is not required, although the use of a small amount of oil judiciously applied about once a year, in accord with the following directions, will suffice to maintain the equipment in good order.

1. Remove turntable retaining clip.

2. Remove the turntable by applying upward pressure to the rim of the table, at the same time lightly tapping the turntable center post with a small tool.
3. Remove idler wheel retaining clip and washer and remove idler wheel.
4. Remove all record shavings that may have accumulated under the turntable, also making sure that the drive wheel assembly is free from shavings or other particles likely to impede its smooth operation.

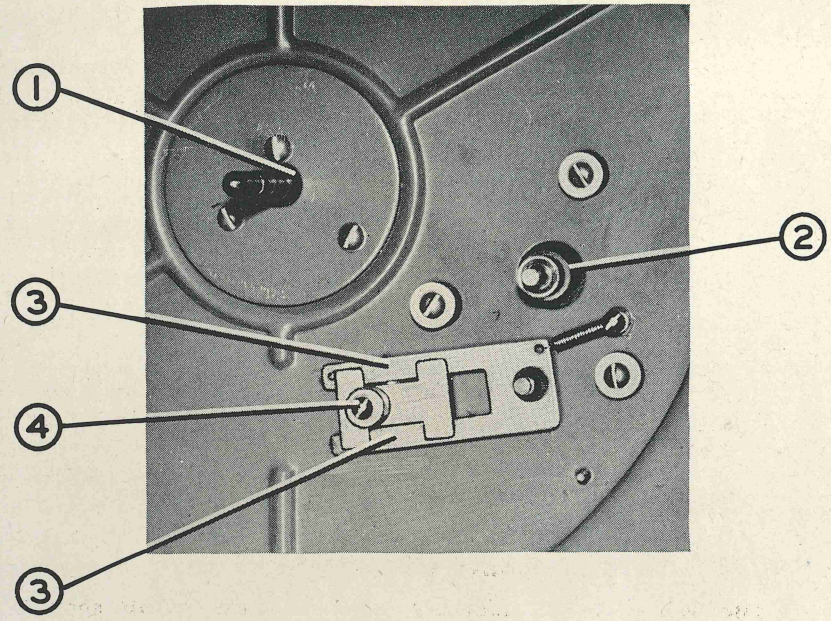

Figure 2
Oiling Points

5. Lubricate the oiling positions as indicated in Fig. 2 as follows

   NOTE: Use only two or three drops of electric motor oil at each position.

   (1) Turntable shaft bearing.
   (2) Upper motor bearing.
   (3) Drive wheel arm slide.
   (4) Drive wheel arm pivot.
6. Carefully apply *one* or *two* drops of oil to the drive wheel bearing, so that the oil will not run out onto the rubber rims of the wheels.
7. Replace idler wheel assembly.

8. Replace turntable on the center post. Lower the turntable carefully, without dropping, and rotate the table by hand so that the rubber rim of the drive wheel seats properly against the inside surface of the turntable rim.
9. The lower motor bearing (not illustrated) may be lubricated by saturating the felt wick which surrounds the lower end of the motor shaft.

TUBES USED.

Eight tubes are used in this RECORDIO. Their type numbers, as printed on each of the tubes, are correspondingly shown in the Tube Socket Layout, Fig. 3. If tubes are removed for test or replacement purposes, make certain that each tube is replaced in its proper socket. The equipment will not function correctly, and there is also possibility of damage to tubes or the associated equipment if the tubes are not inserted correctly.

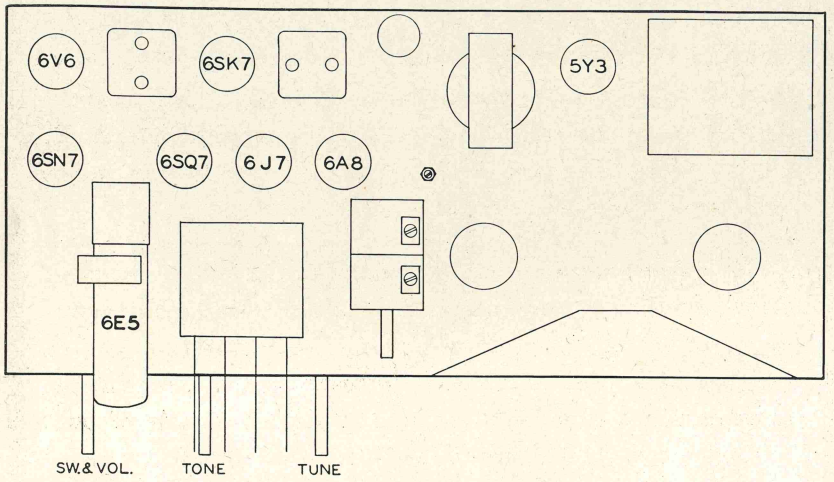

Figure 3
Tube Socket Layout

Factory Warranty

The *Wilcox-Gay Corporation* warrants each new RECORIO or radio product manufactured by it to be free from defective material and workmanship and agrees to remedy any such defect or to furnish a new part in exchange for any part of any unit of its manufacture which under normal installation, use and service discloses such defect, provided the unit is delivered by the owner to us or to our authorized radio dealer or wholesaler from whom purchased, intact, for our examination, with all transportation charges prepaid to our factory, within ninety days from the date of sale to original purchaser and provided that such examination discloses in our judgment that it is thus defective.

This warranty does not extend to any of our radio products which have been subjected to misuse, neglect, accident, incorrect wiring not our own, improper installation, or to use in violation of instructions furnished by us, nor extend to units which have been repaired or altered outside of our factory, nor to cases where the serial number thereof has been removed, defaced or changed, nor to accessories used therewith not of our own manufacture.

Any part of a unit approved for remedy or exchange hereunder will be remedied or exchanged by the authorized radio dealer or wholesaler without charge to the owner.

This warranty is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our radio products.

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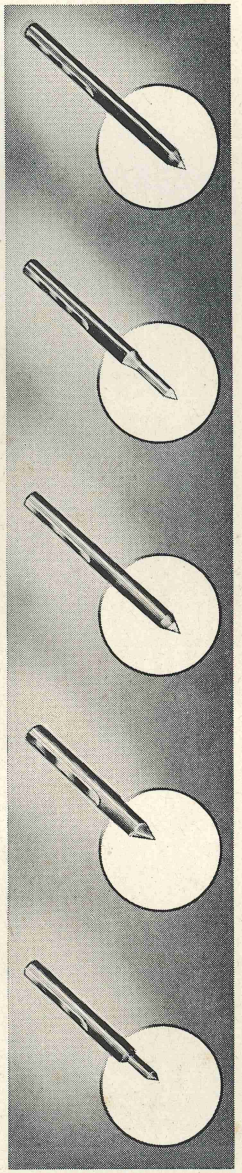
PLAYBACK AND CUTTING NEEDLES



PLATINUM METALS TIPPED—1500 PLAYS 50c

This needle is the result of long experimentation to attain the maximum number of plays with minimum record wear. Each needle offers full value in performance and longevity.

★

PRECIOUS METAL TIPPED—4000-PLAY-BACK NEEDLE $1.00

This needle is scientifically designed for maximum tonal reproduction and the tip is an especially hard alloy which will give service up to 4000 plays for each needle.

★

SAPPHIRE TIP PLAYBACK NEEDLE $2.50

This needle has a light-weight aluminum shank tipped with the finest synthetic sapphire, ground to our exacting specifications and hand finished for maximum accuracy. Under normal service this needle will give up to 5000 perfect reproductions.

★

STEEL CUTTING NEEDLE 25c

This is a steel needle ground to fit the needs of dual-speed recording which achieves the result of making better recordings at either fast or slow speed and will give service up to 15 minutes of recording time.

★

STELLITE CUTTING NEEDLE $1.50

This needle has a brass shank tipped with an especially hardened alloy, hand-lapped to furnish a burnishing edge which will cut quieter grooves than an ordinary steel needle. Cutting service for this needle is approximately 90 minutes.

COMPANION PRODUCTS TO THE FAMOUS RECORDIO

Recordio Discs

Tomorrow's greatest treasures will be the recordings of your life today, recordings that can make special "todays" live again and grow more priceless as time goes by.

As you build this "library of your life" — and the life of everyone in your family, you'll catch patterns of sunlight and shadow, gaiety and grief, in the tapestry of each life, and they'll remain vivid and genuine on long-life RECORDIO discs.

Each year, each month is amazingly agog with events you want to record, even without those "musts" like birthdays, holidays, reunions, vacations or graduations which you'll record as a matter of course.

Wilcox-Gay RECORDIO DISCS can last a lifetime. All are double-faced for use on both sides; their labels have room for your title and date. They are available in three types and in three popular sizes.

"S" SERIES

The New Aluminum Base RECORDIO DISC

Your recordings will live "happiest ever after" on this aluminum disc with the ebony mirror finish, developed exclusively by Wilcox-Gay to guarantee quality, long-life playback.

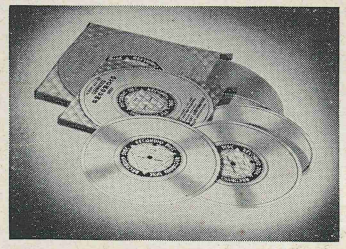
Serial No.	Size	Price
S-26½	6½"	$ .30 each
S-28	8 "	.40 "
S-210	10 "	.60 "

"D" SERIES

In Albums of 6 Discs For Easy Filing

Recordings you do regularly you'll keep in this attractive, durable album, simple to catalog and file.

Serial No.	Size	Price
D-26½	6½"	$1.25 album
D-28	8 "	1.75 "
D-210	10 "	2.50 "



"A" SERIES

The "Mailing" Disc

Fiber Base RECORDIO DISCS, sturdy, flexible, and lightweight, ideal for mailing, are excellent general purpose discs. Special mailing envelopes are procurable for the 6½" size.

Serial No.	Size	Price
A-26½	6½"	$ .60 pkg. of 6 Discs
A-28	8 "	1.00 pkg. of 6 Discs

COMPANION PRODUCTS TO THE FAMOUS RECORDIO